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The Editor
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Let's Talk About It: Our New CMS Service

[Ed. note — The following article is not subject to editorial review.]

Gentle Reader: we have what we think is a great new service coming your way. It won't be perfect to start with, but if you give it a try and can be a little patient in the early stages, you are sure to like it. With the demise of the present IBM partnership agreement, we are getting rid of the 3033/U16 computer that IBM supplied as part of that arrangement. The funds that would be required to cover its maintenance and support costs are sufficient to finance a new machine. As part of a special bid process with IBM we are replacing it with an IBM 4381/P02, a much newer computer. This system will respond more quickly for the average interactive user; extremely computation-intensive work will execute more slowly. The machine also has greater flexibility for future upgrades. It will be equipped with larger, faster more reliable disk drives. These disk drives have a controller with a cache buffer storage of 16 Megabytes, as much as the main processor itself. The disk drives can be upgraded in the field to double the density of storage, going from a total of 5.5 to 11 Gigabytes of online storage if needed. The configuration is optimized for excellent timesharing response. Physically, the computer is about one quarter the size of the U16 (and the box is mostly empty--technology marches on!), with air cooling (instead of water).

The U16 was used by the Department of Computer Science (DCS) for the Turing based BICS service, by the Department of Mechanical Engineering for support of CAD/CAM (Computer Aided Design/Computer Aided Manufacturing), and by certain other Departments for instructional use and for a limited CMS based research service. The CAD/CAM use will hopefully be accommodated on a facility that is part of a follow-on partnership arrangement between IBM and Mechanical Engineering. We anticipate that non-DCS instructional use will remain on the new computer, and perhaps even grow (but it won't be free any more).

The new 4381/P02 will run the same overall operating system as did the 3033/U16, called VM (for Virtual Machine). VM will run individual user virtual machines that implement a timesharing system called CMS (CMS stands for something, but like a lot of acronyms it has really managed to shake off its original meaning and just stand for itself). A little recursive thinking there! The UNIX based BICS virtual machines will not be offered as part of the new service. Non-DCS instructional use will be accommodated under CMS. In general, we see our emphasis slowly shifting away from IBM's MVS operating system, running on the existing 3033/N12 (to be replaced by a 4381/R03 May 20) to VM/CMS.

The CMS service will be phased in slowly, but should be ready to use as soon as we have finally converted to the newer disk drives, which will not be delivered until after the P02 is installed. The service should be available in its early, interim forms as soon as early June. In this form we may not be able to charge for all the resources you use (good news for you at least), accounting and billing may still be largely manual (immaterial from your point of view) and by mid-June most applications that we plan to support will be available. Most courses should be ready by mid to late June, but initially documentation will be sparse. The system will not support the use of tapes in the same way that the MVS system does, and it may never really do so. VM is designed to process data from online files. It is not designed to read in data from tape, process it and write it back to tape in a single job.

Over the summer and into the fall the service will evolve and expand, often in ways that will be quite transparent to you but sig-

continued...

Let's Talk About It: continued

nificant to us. Toward the end of the summer, we will be able to charge you, for all resources used (automatically). More documentation and training will be available, with as much as possible online. There will be a straightforward instructional service with some degree of resource usage limiting, though only exercised once a day, after the fact.

We think you will find the service user-friendly and powerful, and it's certainly the system of choice for academic computing at most universities with IBM gear.

Warren Jackson

Microcomputer News

Work proceeds on *An Academic's Guide to Microcomputer Systems,* which has already had limited distribution in a draft version. The first official edition will be published sometime in June. The hardcopy version will be distributed at the Information Office; later the *Guide* will also be made available on the UTCS Microcomputer Bulletin Board System. Interest in the *Guide* has been expressed by individuals at several universities, including some in the States, who will be sent copies as soon as they are available.

Please advise us......

It seems safe to say that nearly everyone who uses a microcomputer knows something about word processing and has some ideas about how current packages could be improved. Since we are involved with reviewing word processing software, we welcome your comments, suggestions, and opinions about this topic in general, or some package in particular. We are in contact with various software developers, some of whom seem quite receptive to constructive criticism; your ideas could affect what they do. In any case, discussion will help clarify what academics require. The clearer our requirements are, the greater the chance of getting them heard.

Familiarity with database management is rarer, though interest is growing, particularly in specialized applications for keeping bibliographies, research notes, and the like. If current packages are a reliable indication, it is not at all clear to software developers what general database tools for academics should be like. Since we are beginning our research into database management systems, we would very much like to hear from anyone who is now using this kind of software or who has an interest in it. The discovery that a microcomputer is not solely a word processing engine can be an important one for some kinds of academic research.

Please advise us so that we in turn may help you. We can be reached at the Micro Advising line, 978-8701.

Dr. Willard McCarty

Personal Computer Meets Mainframe

I am one of the many people with a personal computer. One of the best uses I find for it is as a terminal to call up a mainframe computer or bulletin board system. The really nice thing about micros used this way is that they can be just about any type of terminal you want. To do this you need a personal computer with a serial port, either an external or just a built-in modem, and a terminal program (communications program).

There are many programs available that make your personal computer behave like a terminal. Two of the most useful ones I have found for the IBM PC (and many clones or work-alikes) are KERMIT and PC-PLOT III. These programs are in fact double function programs, as I will explain.

KERMIT is a public domain program. This means it is really inexpensive, costing less than $4.00 from the UTCS Information Office. The current distribution version is just a "dumb" terminal program, but the newest version, which we are testing (and which may be available by the time you read this), makes your PC act like a VT52 terminal. The VT52 emulation of KERMIT is very good. Using KERMIT, you can access any of UTCS' fullscreen IBM services, such as WYLBUR or TSO.

The second function of the KERMIT program is file transfer. With it you can transfer files to another computer that is also running KERMIT. UTCS has a File Transfer Service to the IBM mainframe, so you can enter your data or programs on your PC, "upload" them to the IBM mainframe by using KERMIT and the File Transfer Service, and then access them on WYLBUR or TSO. KERMIT has error checking and correction to ensure that what arrives at the other end is exactly what you sent.

PC-PLOT III is a commercial program available for approximately $100.00 from the UTCS Information Office. It makes your IBM PC act like a VT100 terminal and a Tektronix 4010 graphics display. Again, this allows access to the IBM mainframe fullscreen services. The second function of PC-PLOT III has to do with graphics. You can use it to preview on your screen the output from graphics programs instead of sending it to a hardcopy plotter. This can be done using interactive TSO on the IBM mainframe. The advantages are many. It is usually quite a bit cheaper and can save a lot of time in the long run. You don't have to go all the way to the plotter and possibly wait for the output, only to find that you made a typing error and the graph is sideways!

The most common use of this graphics display capability is with interactive SAS/GRAPH. You can see your charts and graphs right on your screen instead of committing them to hardcopy on a plotter. You can also capture these graphs to a floppy on your PC and display them later, perhaps as a slide show on your PC. Recently, I used mine to preview some *troff* output from GP UNIX instead of sending it to the CAT phototypsetter at 60 cents per inch. In this application the output isn't beautiful, but you get a good idea of where things are going to be on a page before sending it to hardcopy.

I have described only two programs that make your PC act like a terminal, because these are the two I use from home all the time. There are similar programs available for almost all personal computers made — MacTerminal for the Macintosh, Crosstalk for the IBM PC, and KERMIT for almost all personal computers. The list is long.

Terry Jones

UTCS Microcomputer Bulletin Board System

The long awaited Bulletin Board System (BBS) for U of T microcomputer users is being tested during May and early June. The service, currently using an Ericsson PC (with internal hard disk), runs from the UTCS Micro Lab, and allows one user at a time to sign on for up to thirty minutes a session.

The Ericsson PC has been generously donated by Ericsson Communications Inc.

The original impetus for a micro BBS came from the three campus user groups (CP/M, APPLE, and IBM PC & Compatibles), specifically from their common executive, which is represented on the Committee on Academic Computing. Please note, however, that all funding for this BBS is coming from UTCS itself.

The service is expected to go into production by mid-June. It uses public domain software that includes the following facilities:

- Initial broadcast message
- Public news area
- Interaction with the System Operator
- Posting of notices to any or all other users
- Mail to other users
- File transfers of public domain software
- Settings for expert users to enhance BBS performance

The BBS should benefit U of T micro users and UTCS by

- Actively encouraging and promoting the free exchange and discussion of information, ideas, and opinions on subjects related to microcomputers.
- Providing immediate notification of meetings, seminars and such.
- Serving as a common means of distributing public domain software.
- Allowing for posting of bug fixes, information on new products, product reviews and the like.
- Providing a forum for user complaints and suggestions to UTCS.
- Providing a means for users with common areas of interest to find each other, e.g., by posting a public notice: "Who knows how to get the Phloff multifunction card to work properly on a Computer Junk Mart PC?"
- Allowing a means of conducting quick surveys of microcomputer users.

We envision the BBS running practically 24 hours a day, 7 days a week, except for scheduled periods of downtime for maintenance by the System Operator, Greg Stopelli. This will normally be done in the morning between 9:00 and 10:00 a.m. Backups will be taken on a scheduled basis as well. If maintenance is omitted, the BBS will remain available during that time; any other downtimes will be announced with some advance notice when possible.

For the present, the system is configured to handle one user at a time. If demand grows, and if hardware resources permit, we might expand to a multiuser situation. But the software for multiuser support is fairly expensive.

Each session is limited to 30 minutes, after which you are "timed out," and the line drops. This is done so that a user who signs on, and then goes to the movies without breaking the connection, does not tie up the service for a whole day. We feel 30 minutes, even at 300 baud, is enough to get things done.

We expect to off the service at least at 300 and 1200 baud. Higher baud rates are being tested now.

A Handout with instructions for accessing the BBS will be available from the UTCS Information Office in mid-June. It will tell you how to connect to the BBS and what

continued...

Bulletin Board System continued

communications parameters to use on your micro. It is our intention to allow for access from any microcomputer.

This service is being offered at no charge, with the intent of serving U of T users exclusively. An account number is required but is set up dynamically when you first sign on. As this theoretically allows anyone to sign on, we must warn users to avoid abuse. If we find unsuitable material on the BBS, such as commercial software with the copy protection broken, the entire BBS will be discontinued. The University, and UTCS in particular, has no desire to be sued by any software manufacturer or other party.

So, look for the BBS to start up in mid-June, and pick up your free access instructions at the UTCS Information Office. Please try out the BBS; the more the merrier. Comments should be sent to the System Operator (Sysop) on the BBS, or to Greg Stopelli, UTCS Micro Lab, Room. 257, McLennan Physics Labs, 255 Huron St.

We look forward to ‘‘chatting’’ with you on the BBS.

Paul Roth
Greg Stopelli

Keyword Searching in dBASE III

Assume you have a large set of file folders, each containing copies of up to ten journal articles, with the file folders labelled by some descriptive keyword. Each article has a title, a reference to the journal it appeared in, an issue number and an issue date. You regularly search for articles about a given subject but find that this search has become tedious as the number of articles and folders grows.

What you need is a way of identifying all articles for a given ‘‘keyword’’ (subject) or combination of keywords, so that the relevant articles in all of your file folders can be located quickly and easily. You plan to do this using an IBM PC running dBASE III. You would also like to minimize storage requirements so that all files fit comfortably on one floppy disk, and you would like to enter the data into dBASE III efficiently.

Here is a way of doing it that illustrates two of dBASE III’s more powerful features. You will need to set up files and, where possible, define codes for journal titles. (You might be reading 30 different journals, so you don’t want to enter each title more than once.) Do the following:

- Create a database file called ARTICLES, with fields for the title of the article, the name of the file folder, the code for the journal title, the issue date, the issue number, and (as one field) a list of keywords for the article.

- Create a database file called JOURNALS, with fields for the journal title code (i.e., the same code you used in ARTICLES), the full journal title, whether or not you subscribe to the journal (this would be of Logical type), the subscription expiry date, and the annual subscription cost.

- Create an index of JOURNALS, indexed by the journal title code (JCODE), called JOURNX.NDX.

- Now APPEND data into both files.

  Note: When appending to JOURNALS, keep the JOURNX index open so that it too will be updated.

- Finally, when you’re ready to do queries, define a dynamic **relation** between the two files:

continued...

dBASE III continued

```
.SELECT A
.USE JOURNALS INDEX JOURNX ALIAS A
.SELECT B
.USE ARTICLES ALIAS B
.SET RELATION TO JCODE INTO A
```

- Now during queries, the pointer in ARTICLES moves through each record, and, depending on the journal title code in the current record, the pointer in JOURNALS moves to the corresponding record in that file. Hence, the following query can obtain all article titles (ATITLE), file folders (FOLDER), and journal titles (JTITLE) for articles with the keyword (XREF) "HISTORY":

  ```
  .DISPLAY ALL ATITLE,FOLDER,A->JTITLE;
   FOR 'HISTORY' $ XREF
  ```

  The construct "A->JTITLE" means take the field JTITLE from the related file whose alias name is A. The condition "X $ Y" gives a value of true only if the string X is contained in the string Y.

  Other, more complex queries could now be done as well.

  The construct A->JTITLE can also be used in CREATE REPORT.

- If you are doing a sequence of queries where each one is more restrictive, there is an easy way to take the output of one query and use it as input to the next. Thus,

  ```
  .DISPLAY ALL ATITLE FOR 'HISTORY' $ XREF
  .DISPLAY ALL ATITLE FOR 'HISTORY' $ XREF;
   .AND. 'CANADA' $ XREF
  ```

  is equivalent to

  ```
  .SET FILTER TO 'HISTORY' $ XREF
  .DISPLAY ALL ATITLE
  .DISPLAY ALL ATITLE FOR 'CANADA' $ XREF
  ```

  In effect, the filter condition deals with your file as if it contained only records that satisfy the filter condition, so that further queries or other operations deal only with that subset of your file. To turn off the filter, just enter "SET FILTER TO".

- One last note: When files are **related** by SET RELATION TO, editing or appending may take longer, since the pointer in the related file has to be moved automatically. Hence, if you are doing a number of edits or appends to ARTICLES, don't have the SET RELATION intact. Use the SET RELATION only when you wish to do queries.

SET RELATION and SET FILTER are significant enhancements over dBASE II, which required user-written dBASE programs to accomplish the same tasks. The SET RELATION construct is especially powerful and reasonably fast.

If you have any questions about the above, or dBASE in general, call the Micro Advising line at 978-8701.

Paul Roth

SAS® under PC/DOS

At the SUGI Conference held in Reno, Nevada in March, SAS Institute Inc. announced that the SAS System would be available under PC DOS in the second quarter of 1985. They have since moved the date back to the third quarter of 1985. The required hardware is an IBM PC-XT or PC-AT or compatible, with a 10M hard disk and at least 512K memory (640K is recommended). A math co-processor is also recommended, but not necessary.

The SAS System will be licensed on an annual basis, which will ensure that you are

continued...

SAS under PC/DOS continued

kept up-to-date, and any enhancements to the system will be received automatically without extra charge. All of the SAS products, such as SAS/GRAPH, SAS/ETS, SAS/OR, SAS/FSP, SAS/AF, and SAS/IML, will eventually be available under PC DOS. The initial release will include only the features of SAS that are documented in the *SAS User's Guide: Basics.* The statistical procedures are expected to follow soon after and must be licensed separately.

Pending funding, UTCS may consider distributing SAS under PC DOS, at significant savings to users. Prices would depend on the number of users who actually lease specific products. If you would like to have your name added to the list of interested users, please call Diane Mitchell at 978-5128.

Diane Mitchell

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CMS Accounts

Several articles in this issue of *COMPUTERNEWS* discuss the new CMS service, which will become available in an interim form about June 10. As with other services at UTCS, you may open a CMS account at the Accounting Services office, Room 337, McLennan Physical Laboratories.

Within certain system restrictions, you will be able to choose your own CMS account name (or "userid") and password. The userid must begin with a letter and consist of at least four alphanumeric characters and no more than eight. The best choice is all or part of your surname or some mnemonic combination of your surname and initials. One of the many strong points of CMS is its interuser communications capabilities; it will be easier for others to communicate with you, if your account name is reasonably recognizable. Of course, the name must also be unique; Accounting Services personnel will be able to tell you if the name you have chosen has already been taken.

Your password may have a maximum of eight alphanumeric characters and a minimum of four. At present, our CMS system does not distinguish between upper- and lower-case letters. The usual security rules apply to your choice of a password:

- Do NOT choose a word that others would readily associate with you. For example, using your own name or that of a spouse, child, or pet, or any of these spelled backwards, is asking for trouble.
- Use all eight characters if you can; the longer your password, the more difficult it will be to guess.
- Change your password every couple of months; in CMS, this is a very simple procedure.

If you have any questions about CMS accounts, or any other accounting matters, please contact Accounting Services at 978-7148.

Ron Vander Kraats

CMS Documentation

With the new CMS service, the UTCS Information Office will be stocking certain manuals and guides for use with the services and products offered on CMS. In particular, our CMS user community will find the following manuals especially useful:

1. *UTCS Guide to CMS*

   This Guide tells you how to log on to CMS, what products are available on CMS (languages, processors, utilities) and how to access them. It also outlines some of the features of CMS at UTCS and contains a comprehensive list of the documentation available from IBM and other suppliers of software on CMS.

2. *IBM VM/SP: CMS Primer*

   This is a self-teaching primer for new CMS users; it will also be used as a textbook in most UTCS introductory courses on CMS.

3. *IBM VM/SP: Application Development Guide*

   A useful manual for FORTRAN users on CMS.

4. *SAS Companion to the VM/CMS Operating System*

   This manual is a supplement to the *SAS User's Guide* and will be invaluable to users running SAS on CMS.

5. *UTCS Guide to SCRIBE*

   The new release of this Guide provides information on how to use the SCRIBE text formatter under CMS.

These and other manuals are available for reference in the Information Office, located in the Engineering Annex, Room 206. A price list of CMS documentation is also available from the Information Office.

Paul Shindman

Taking a New Look at SCRIBE

With the current availability of SCRIBE on a number of UTCS services and on a number of other machines on campus, users unfamiliar with this text processing package may be interested in a little history of SCRIBE at UTCS and also in what the package does.

In January 1982, UTCS first announced that it would be testing the SCRIBE formatting package on the DECsystem-10. The User Test was conducted during April, May, and June 1982, and recommendation for its acquisition was forwarded to the UTCS Review Committee. In May 1983, SCRIBE was installed, and a short course on SCRIBE formatting was first offered in August.

Interest in versions of SCRIBE on other UTCS systems continued throughout this time, but it was not until the announcement of the discontinuation of the DECsystem-10 service that UTCS began working on an alternative SCRIBE system. Version 4.0 of SCRIBE was installed and tested on the GP UNIX system in the early months of 1985 and was put into production on April 23. Testing of SCRIBE on the new CMS service took place simultaneously with the GP UNIX installation. With the availability of CMS, users now have two SCRIBE alternatives.

SCRIBE is a flexible text processing package which can produce just about any style

continued...

SCRIBE continued

of formatting. Its flexibility, however, does not make it difficult to learn. SCRIBE is designed in such a way that a limited knowledge of the package still gives the user access to all the features.

To produce a formatted document with SCRIBE, you first enter your text into a file, along with a minimum number of formatting instructions. This file is usually referred to as the "manuscript" file. You may think of it as a writer's draft before it goes to the publisher; the file contains the entered text and some indications of the type of formatting required, e.g., where chapters or sections begin or where italics or underlining should appear. The manuscript file is processed through SCRIBE to produce the formatted output, which is saved in a "document" file. This document file, when printed, is the final formatted document.

This simple cycle of text production (enter, format, print) really does not give any indication of the flexibility of SCRIBE until you consider the type of document being created and the printer on which it is going to be printed. Two SCRIBE instructions specify the type of document and the type of printer. If you are preparing a thesis, the **document type** option allows you to tell SCRIBE that you want to format your document in a general document style such as a "thesis". SCRIBE has a database in which it stores information about how theses should look: the size of the margins, the number of characters to a line, the spacing of the text, the paragraph and footnoting style, the style of chapter headings, endnotes, and citations, and so on. You need not specify any of this information (unless of course you want to modify it). You let SCRIBE do this work for you, giving you more time to concentrate on your text.

The **device type** specification lets you tell SCRIBE to prepare your formatted file for a specific printer, such as an 8700 laser printer, a CAT phototypesetter or a line printer. With this information, SCRIBE is able to format your document to take maximum advantage of the printer's capabilities in terms of proportional spacing, font variety, and font size. In addition, you can create a number of different printed outputs from a single manuscript file just by changing the device type specified.

SCRIBE is useful in a wide range of text processing applications because of its broad range of capabilities, and since the user can modify SCRIBE formats, the formatting possibilities are endless.

If you are interested in seeing how SCRIBE can fill your text processing needs, contact Pat Hood at 978-4548 to arrange a demonstration. Short courses that teach users how to use SCRIBE on the GP UNIX or CMS systems are offered on a regular basis. Contact the Education Coordinator at 978-4565 for information about scheduled courses.

Patricia Hood

SCRIBE on GP UNIX

SCRIBE is now available on GP UNIX. Users already familiar with SCRIBE will find little difference in how to use it; for DECsystem-10 users, Version 4.0 SCRIBE on GP UNIX will provide additional commands and capabilities.

To use SCRIBE on the GP UNIX system, first prepare a file containing text and SCRIBE commands. This file should have a name with ".mss" at the end (like the ".mss" extension convention used by SCRIBE on the DECsystem-10). To process the file through SCRIBE, type:

```
scribe [options] file.mss
```

SCRIBE will format "file.mss" and au-

continued...

SCRIBE on GP UNIX continued

tomatically put the formatted version in a file named after the input file, replacing ".mss" with the name of the printing device for which the file was formatted. For example, if the input file was formatted to be printed on a line printer, the formatted file will be called "file.lpt". Information on the conventions for filenames can be found in the *SCRIBE Document Production System: User Manual* or the UTCS Guide to SCRIBE.

Files formatted using SCRIBE on GP UNIX can be printed on line printers, Diablo printer/terminals, the 8700 laser printer, the Varian printer/plotter, and the CAT/8 Phototypesetter. Different device types must be specified when formatting files for printing on these devices. Please see the *SCRIBE User Manual* or the UTCS Guide to SCRIBE for more information.

To print formatted files with the ".lpt" extension, use the *ipr* command. Information about options for *ipr* can be found in the online manual for *ipr*. For files formatted to print on Diablo printer/terminals, a special command has been developed called *podtyp*. The *podtyp* manual page on UNIX defines the **options** available for this command; it is almost the same as the PODTYP program on the DECsystem-10. The **procedure** is also explained in the UTCS Guide to SCRIBE.

Files formatted to print on the Varian printer/plotter or CAT phototypesetter (with extension ".gsi") can be sent to these printing devices by using the *svar* and *scat* commands respectively. There are online manual pages that explain how to use these commands. Short examples of *scat* and *svar* are also found in the UTCS Guide to SCRIBE.

Files formatted for pseudotypesetting on the 8700 laser printer can be sent to the 8700 with the *s8700* command. In addition to the online manual page for *s8700,* users can consult the UTCS Guide to SCRIBE for more information.

Users encountering difficulties in using SCRIBE on GP UNIX should contact the Central Advising Office at 978-HELP.

Introductory courses on the use of SCRIBE on GP UNIX are taught on a regular basis. Contact the Education Coordinator at 978-4565 for information about the next scheduled course.

Patricia Hood

Text Processing on CMS

With the implementation of CMS, users will have two additional text processing alternatives. SCRIBE and Waterloo Script will be available on CMS: SCRIBE with Class A support, and WScript GML with Class B. The availability of short courses and advising is determined by the level of support assigned to the product. SCRIBE, as a Class A product, will receive the highest level of support. Short courses on CMS/SCRIBE will begin in June; advice on using CMS and/or SCRIBE is available through the Central Advising Office at 978-HELP. Advice for SCRIBE is also available through the Imaging/Humanities Support Group. Contact Pat Hood at 978-4548.

Since WScript is a Class B product, no short courses will be offered for this text processing package, but advising will be available through 978-HELP and the Imaging/Humanities Support Group. Extensive documentation for WScript is available on the CMS system and may be printed using the "document" facility on CMS and TSO, and "do document" on WYLBUR. A UTCS Guide to WSCRIPT will be available online and through the Information Office later in the summer; a full set

continued...

Text Processing on CMS continued

of the WScript documentation is available for reference at the Information Office as well.

SCRIBE on CMS differs somewhat from the SCRIBE on GP UNIX or the DECsystem-10. The command set of Version 4.0 SCRIBE is the same, but fewer device types are supported because of the nature of CMS. Users will not be able to print files formatted with the diablo or gsi device types; anyone interested in these device types may use SCRIBE on GP UNIX. A pseudotypesetting alternative is available using the XEROX 8700 Laser Printer to print files formatted with device type x8700 or x9700. Details about pseudotypesetting can be found in "Pseudotypesetting: SCRIBE and the 8700 Laser Printer" (elsewhere in this issue). Some of the other device types that UTCS continues to support are lpt, draft, docname, and pagedfile.

Using SCRIBE on CMS

SCRIBE on CMS is easy to use. Once you have prepared your input file containing text and SCRIBE commands, you process the file through SCRIBE to create the formatted file. The "scribe" command has the same general format as all CMS commands:

```
scribe fn ([options]
```

An example of the command would be:

```
scribe text mss (x8700
```

When the input file is formatted, the formatted version is saved in a file with the same filename and filemode as the input file. If the device type used is lpt, ibmtn, or ibmala, then the filetype of the formatted file will be "listing" (i.e. text listing). A file formatted with device x8700 will have a filetype of "x8700".

By using the Document Printing Service on the 8700, files formatted with SCRIBE can be printed either as typewriter-like or pseudotypeset output. Use the "laser" command as follows to produce a typewriter-like version:

```
laser text listing (form ...
```

To print a file formatted for pseudotypesetting using device x8700, type the "87set" command:

```
87set text x8700 ([options]
```

More detailed information about using SCRIBE on CMS can be found in the UTCS Guide to SCRIBE.

Using WScript on CMS

The command for formatting a file using WScript is very similar to that used with SCRIBE. After preparing a file containing your text and the WScript formatting instructions, the file is processed using the "wscript" command as follows:

```
wscript fn ([options]
```

The formatted text will be saved in a file with the same filename as the input file but with a filetype of "listing". You can print the formatted file by using the "laser" command:

```
laser text listing ([options]
```

Detailed information about using WScript on CMS will be available in the UTCS Guide to WScript.

Patrica Hood

SCRIBE on CMS: The New Short Course

Users moving to the CMS system can take advantage of the new UTCS short course "TXT/CMS 101: XEDIT and SCRIBE on CMS" for learning both CMS and SCRIBE. This course, currently in development, is modular in design, with a logical group of skills and concepts assigned to a module and the modules combined in a skill-building sequence. Editing and text formatting skills are more closely associated in this type of format, giving maximum exposure and experience with both CMS and SCRIBE.

The course will familiarize you with the CMS skills necessary to use your account effectively for text processing. The SCRIBE formatting package will be used to produce a number of different types of formatted documents, ranging in complexity from simple letters to articles, manuals with cross-referencing, and uncomplicated theses. The emphasis will be on general formatting commands and environments applicable to a wide variety of documents. If you are preparing more demanding documents, you may also register for the SCRIBE "Special Topics" course, TXT/SCRIBE 202.

The first TXT/CMS course is scheduled for mid-June. To register or obtain more information, please contact the Education Coordinator at 978-4565.

Patricia Hood

Pseudotypesetting: SCRIBE and the 8700 Laser Printer

Pseudotypesetting, announced last August as a potential enhancement of the 8700 Document Printing Service, is now available using the SCRIBE text formatting program on GP UNIX and early in the summer on CMS. Pseudotypeset output is comparable to typeset output currently available from the CAT/8 Phototypesetter, and of a higher and more consistent quality than output from the Varian printer/plotter currently used as a typesetting preview device. A major advantage of pseudotypesetting is its substantially lower cost compared with the CAT and the Varian. Pseudotypesetting will cost approximately 12 cents a page compared with $6.60 a page for CAT output and $2.20 a page for Varian output.

To produce pseudotypeset output on the 8700 you must prepare and format your text using SCRIBE. Complete information and examples of the procedure can be found in the UTCS Guide to SCRIBE, available soon on GP UNIX and at the UTCS Information Office.

A variety of character styles and font sizes are available. SCRIBE has reasonable preset definitions of the fonts and sizes it will use when formatting specific document types and environments; the default database definitions have been designed with the overall look of the document in mind. Users can, to some extent, modify the fonts and sizes used within their documents. Printing one or two sample files will illustrate SCRIBE's defaults most effectively. Also, examples of the available fonts are printed in the UTCS Guide to SCRIBE. Users interested in further enhancements to the font selection should contact John Bradley at 978-3995.

New users can learn about SCRIBE and pseudotypesetting by attending one of the short courses "TXT/UNIX 101: *ed* and SCRIBE on GP UNIX" or "TXT/SCRIBE 102: The SCRIBE Text Formatter." These courses are offered on a regular basis. Contact the Education Coordinator at 978-4565 for information about the course schedule. Current SCRIBE users wanting

continued...

Pseudotypsetting:SCRIBE continued

to produce pseudotypeset output may consult the UTCS Guide to SCRIBE or contact 978-HELP for more details.

Patricia Hood

Upgrade to APL Fonts on 8700 Laser Printer

The Imaging/Humanities Support Group has recently made some changes to the APL font on the XEROX 8700 Laser Printer. These changes correct some minor alignment problems with overstruck characters that APL users may have noticed previously.

The major correction involved shifting the jot "∘" character slightly so that the hydrant "⍎", thorn "⍕", and lamp "⍝" characters now appear as they should. Previously, the jot character appeared higher up and to the left.

The other corrections were all minor and involved slight spacing adjustments to the quad and hyphen characters in the portrait layout, and to the right and left shoe, right and left arrow, and left tack characters in the landscape layout.

Paul Shindman

SHARE, SUGI and ISSUE Conferences

UTCS staff attended three recent computer conferences: the IBM SHARE, held in Los Angeles in February; SAS' SUGI conference, in Reno, in March; and in April, the SPSS ISSUE, held right here in Toronto.

Through conferences like these, we are able to keep up with changes in hardware and software. Each conference provides a forum in which users can exchange information and relate their experiences with particular products; this saves us a great deal of time in solving users' problems here at UTCS. In addition, users can provide the vendor with feedback; the vendor, in turn, can respond to user complaints (and requests) and announce plans for current or future products.

Among the topics discussed at the three conferences were SAS® Version 5, SAS and CMS, SAS Procedure Enhancements, Micros and Statistics, dBASE III and SAS, Enhancements to SAS/GRAPH, SPSS-X New Release, SPSS-X Interactive Graphics, SPSS for PC, IBM VS FORTRAN Release 4, IBM PC DOS Internals, TSO/ISPF and High Level Languages, Teaching New Users, Managing Micros for Teaching in a University Environment, and Printed Circuit Board Design System.

The Central Advising Office staff who attended these conferences are making a copy of their notes available for reference at the UTCS Information Office. They welcome your questions. For conference highlights related specifically to statistical products, see "ISSUE Meeting Wrapup" and "SAS under PC DOS," elsewhere in this issue of *COMPUTERNEWS.*

Terry Jones

®Registered trademark of SAS Institute Inc., Cary, N.C.

ISSUE Meeting Wrapup

The first Canadian ISSUE (International SPSS Software Users Exchange) meeting was held in Toronto on April 15-16, and it was an overwhelming success. Over 125 people attended from across Canada, with others coming from New York State and Pennsylvania — over twice as many as had originally been expected!

Everyone arrived Monday afternoon to learn about recent software developments from SPSS, Inc. Jim Sugrue, of SPSS' Sales Support department, spoke about SPSS-PC and the new SPSS graphics package that is now being marketed. Nancy Morrison, head of SPSS' Quality Assurance group, outlined some of the many new features that we can expect in the new release of SPSS-X, which will be arriving shortly. Monday evening's reception and dinner gave attendees an opportunity to meet each other and discuss mutual interests.

The next morning, Ryerson made available a room with IBM PCs and a variety of compatibles running SPSS-PC. Nancy gave two talks about SPSS-X, which illustrated capabilities that few people had realized were possible. As well, there were concurrent papers about user experiences with SPSS-PC and the TABLES procedure, and Ryerson's system of panels for running SPSS-X jobs. After the morning sessions, there was a luncheon with a few closing speeches.

Judging from all of the comments and evaluations, everyone enjoyed the meeting and appreciated the efforts of the organizing committee, and it is possible that another meeting will be held in the future.

All SPSS users are encouraged to join ISSUE by writing to

444 North Michigan Ave.,
Suite 1970,
Chicago, Illinois 60611.

ISSUE provides services such as a quarterly newsletter, special interest groups, software questionnaires, the biannual ISSUE conference, and local workshops and meetings.

Diane Mitchell

IMSL Library Updated

Release 9.2 of the International Mathematical and Statistical Library has now been installed. This is a maintenance upgrade only; no routines have been added or deleted. There are minor changes to the documentation, but no calling sequences appear to have been changed. Update documentation should be available at all sites in the near future.

During the test period, the datasets containing the new version are APPL.MATH.IMSL92DP, for double precision, and APPL.MATH.IMSL92SP, for single precision. Release 9.2 is scheduled to become the default on July 1. At that time, these new datasets will become APPL.MATH.IMSLDLIB (double) and APPL.MATH.IMSLSLIB (single), and the current 9.1 datasets with these names will become APPL.MATH.OLD.IMSLDLIB and APPL.MATH.OLD.IMSLSLIB. Users are encouraged to test the new libraries and report all problems to 978-HELP. Watch HOTNEWS for exact dates.

John Roth

Introduction to CMS for FORTRAN Users

The introduction of the CMS service is exciting news for our FORTRAN users. With its fast response time, the CMS service is expected to provide a less expensive alternative to current services. CMS allows interactive access to the same proven VS FORTRAN compiler as is currently accessible from TSO and GPJS. In addition, a new, state of the art, interactive debugging tool will be installed on this new service.

The Applications Support and Advising (ASA) Group is currently developing a CMS course for FORTRAN users. The course will assume the user has a working knowledge of FORTRAN but not of any particular computer system.

After completing the course, the student should be able to get on and off CMS, edit and manage files, communicate electronically with other users on the same computer or around the world, and write command scripts (EXECS). Special emphasis will be given to compiling, executing, and debugging FORTRAN programs in the CMS environment. The FORTRAN Interactive Debug (IAD) will be discussed in detail, using examples of common errors and how to eliminate them efficiently.

As textbooks, the course will use three manuals that have proven very useful to the novice learning CMS. For those interested, these are:

IBM VM/SP: CMS Primer
IBM VM/SP: Application Development Guide
VS FORTRAN Interactive Debug Guide
and Reference

These can be ordered through the UTCS Information Office, located in Room 206, in the Engineering Annex.

The date of the first "Introduction to CMS for FORTRAN Users" course will be announced in a few weeks. For more information about this course, please contact the UTCS Education Coordinator, Irene Rosiecki, at 978-4565.

Alex Nishri

FORTRAN Error Message

Since the latest version of IBM VS FORTRAN Release 3 went into production in January 1985, a common question has arisen from a message produced by the TRMFLG option of the compiler.

The message is:

```
IFX000301I CNTL 0(I) TRMFLG has been
specified but SYSTERM is not a terminal.
TRMFLG cancelled.
```

This message does not affect the compilation of the program (severity level 0, informatory). Because the compiler is used both interactively and in Batch mode, it is installed in such a way that error messages come out on the interactive user's terminal. In Batch jobs, there is no terminal attached, so the TRMFLG option is turned off automatically, and the informatory message is produced. If you really want to suppress this message, you can use

```
PARM.FORT='NOTRMFLG'
```

on the EXEC statement.

Terry Jones

FORTRAN G1 Compiler Removal

Effective July 1, 1985 UTCS will be removing the obsolete and unsupported FORTRAN G1 compiler from the IBM 3033/N12. This compiler, originally made available in 1970, has long since been replaced by the VS FORTRAN compiler as the UTCS production package. If you have any questions, or have been using the G1 compiler, please contact the Central Advising Office at 978-HELP.

Herb Kugel

New SORT on IBM 3033/N12

Effective shortly, UTCS will be installing Release 6.0 of the IBM SORT/MERGE program on the IBM 3033/N12. Please watch HOTNEWS for further information.

The package contains some useful features. A new BLockset SORT/MERGE technique has been added to improve performance, new exit features have also been added, and there has been a considerable expansion in the ability to pass options to the program.

There are several other significant improvements, and users who regularly access the SORT/MERGE program are urged to obtain the IBM manual *DFSORT Application Programming: Guide,* (Form SC33-4035) Ninth Edition, November, 1983. (This manual was formerly called *OS/ VS SORT/ MERGE Programmer's Guide.)*

Herb Kugel

Introductory Talk on UTCS

Departments whose students are expected to use UTCS services may wish to take advantage of a one or two hour introductory Talk given by the Advising Office.

This Talk will introduce all services offered by UTCS, present criteria for deciding which service will most satisfy the student's needs, and supply the locations of the various information services available at UTCS.

The Talk is given in the fall, by arrangement with the requesting department. It is most suitable for researchers and graduate students.

For more information, please contact Roni Moravan at 978-HELP.

Alex Nishri

EAT Advising Office Closed

The walk-in Advising Office in the Engineering Annex closed its door on April 1 because the number of user queries handled there had become very small.

I am confident that all of your advising needs can be handled quickly and efficiently by calling 978-HELP. If you do find yourself with one of those problems that is too complex to explain on the telephone, don't hesitate to call 978-HELP and make an appointment to see one of the full-time consultants, Roni Moravan, John Alexander, or Terry Jones.

Terry Jones

Change Committee

Changes to the IBM 3033/N12 and IBM 4341

1. TSO/E was installed on the IBM 3033/N12 on March 10.
2. A new version of ISPF was installed on the IBM 4341 on March 10.

Changes to GP UNIX

1. The full name was put into the environment variable for all users on March 11.
2. The ordering of *troff* fonts when accessed by number was changed on March 18. This should provide consistency with other sites using *troff* and will only impact users of fonts who have their own macro packages or who don't use macro packages.
3. A new version of *ipr* was installed on March 18. Users should be aware that the "l" option has been dropped and that the use of "over" should only occur when necessary.
4. A new version of /bin/mail was installed on April 15. This has made GP UNIX compatible with the PDP 11/70.
5. SCRIBE was installed on April 23. It currently supports all services that were previously offered on the DECsystem-10.

Changes to Other Systems and Services

1. Additional PACX terminals were made available at the Robarts site on March 26.
2. The Central Advising Office assumed consulting services on VM/CMS as of March 25.
3. Advising service at EAT was discontinued on March 29. The number of users at that time did not warrant continuing this service.
4. The use of user-supplied forms and of electronic forms on the 8700 laser printer became available as of April 15. User-supplied forms is similar to the provision of 9000 series forms on the IBM 1403. Electronic forms allows for customized forms creation.
5. Service was removed on one 1403 printer and 2821 control unit at ASUT on April 15. This change had been scheduled for May 1, but it was forced prematurely due to damage suffered during a recent storm.
6. A new IBM 4381 machine was physically installed on April 24. Development of VM/CMS services, which will eventually be offered on this machine, is in progress.
7. The BICS service was discontinued as of April 19.

Joan Coutts

UTCS Noncredit Short Courses

UTCS offers a number of short, noncredit courses on the use of various products and services that we support. These courses are available to students, faculty and staff of the University of Toronto, as well as to other users of our system.

Complete course descriptions for all noncredit courses offered at UTCS are available at the Information Office, Engineering Annex, Room 206, and at the Accounting Services Office, McLennan Labs, Room 337.

All short courses are held in the UTCS Education Facility, Room 221, McLennan Physical Laboratories. Due to the limited seating capacity in the Education Facility, and the number of terminals available for our hands-on courses, registration is required for short courses.

Please note that we reserve the right to cancel courses, if registration is too low.

Anyone interested in taking any of these courses must register in person with:

Education Coordinator
Engineering Annex, Room 207
978-4565

A nonrefundable Administration Fee of $10 per course is due at the time of registration. It may be paid by cash, cheque or on a Customer Account Number (CAN).

(Anyone interested in credit courses should contact the Dept. of Computer Science at 978-6360).

The following course is offered in June:

TXT/CMS101 - XEDIT and SCRIBE on CMS
Date: June 17-28, 1985
Time: 9:30-11:30 a.m.

Irene Rosiecki

Personnel Changes

Kin Fong, UTCS' Graphics Specialist, has joined Data-Plotting Services, Inc. Kin was with the University for 11 years. **Terry Jones,** our Central Advising Supervisor, has accepted the position of Graphics Specialist in the Textual/Humanities Support Group.

Peter Wall, our Erindale Site Coordinator left us to join Bell Northern Research in Ottawa. **Joe Lim,** formerly in the Hardware and Communications section, has accepted the position of Erindale Site Coordinator.

System's Librarian **Joan Coutts** has decided to go back to school full-time. **Beverley Scarborough,** formerly in Operations, will be the new Systems Librarian.

Bruce Pinn has been promoted to Professional Engineering Officer in the Hardware & Communications section of the Communications and Technical Support Group (CTS). **John Roth,** formerly of the Statistical and Numerical Applications Group, has replaced Bruce as System Software Programmer in the Networking section of CTS.

Bruce Freeman, of the Systems Group, left UTCS and joined Trigraph Inc. as a UNIX Systems Administrator.

Waterloo Co-op students **Dale Thompson,** who worked in the Central Advising Office, and **Nancy Helfinger,** who worked in Publications, have returned to their studies. We enjoyed working with you. Good Luck! Welcome to **Warren Bell** and **Karen Joyce,** the new students replacing Dale and Nancy.

Elizabeth Weitmann

Hours of Service

Canada Day

	June 29 (Saturday)	**June 30 (Sunday)**	**July 1 (Monday)**
IBM 4381/R03 GPJS(Classes B and E, Calcomp)	10:00-18:00	10:00-18:00	closed
IBM 4381/R03 GPJS(Class A, WYLBUR, APL, TSO)	10:00-18:00*	10:00-18:00*	unattended
VM/CMS	10:00-18:00*	10:00-18:00*	unattended
DECsystem-10, GP UNIX	10:00-18:00*	unattended	unattended

Normal hours of service for all systems will resume Tuesday, July 2, 1985.

Civic Holiday

	August 3 (Saturday)	**August 4 (Sunday)**	**August 5 (Monday)**
IBM 4381/R03 GPJS(Classes B and E, Calcomp)	10:00-18:00	10:00-18:00	closed
IBM 4381/R03 GPJS(Class A, WYLBUR, APL, TSO)	10:00-18:00*	10:00-18:00*	unattended
VM/CMS	10:00-18:00*	10:00-18:00*	unattended
GP UNIX	10:00-18:00*	unattended	unattended

Normal hours of service will resume on Tuesday, August 6, 1985.

* Running unattended outside these hours.

For NORMAL HOURS OF SERVICE see "UTCS Terminal & Advising Sites" at the back of this issue of COMPUTERNEWS.

In the event of any changes to the above schedules, a notice will appear in the July/August issue of COMPUTERNEWS and also in HOTNEWS one week prior to the holiday.

Summer hours of service for the University of Toronto will be in effect July 2 until August 30, 1985. UTCS' office hours will be 08:45 to 16:30 during this time.

New UTCS Documents

To print online documents on
IBM
WYLBUR users type "do document"
TSO users type "help document"
APL users type ")LOAD I UTCSGUIDE<CR>HELP"
DECsystem-10
use iprint or SOS/R command
GP UNIX
use ipr or cat command

Recommended forms code for the 8700 is YXLE unless otherwise noted.

New UTCS Documents in hardcopy

UTCS Catalogue: Statistics Products
Previously announced:

UTCS GUIDE TO PRODUCTS AND SERVICES: Introduction
UTCS GUIDE TO PRODUCTS AND SERVICES: Basics
UTCS GUIDE TO PRODUCTS AND SERVICES: Accounting
UTCS Catalogue: Access, Part 1
UTCS Catalogue: Access, Part 2
UTCS Catalogue: IBM MVS Utilities
UTCS Catalogue: Numerical Products
UTCS Catalogue: Storage
UTCS Catalogue: Text Products
UTCS Guide to Census Tapes
UTCS Guide to File Transfer Service
UTCS Guide to Highspeed Printing
UTCS Guide to KERMIT
UTCS Guide to Mainframe File Transfer Facility
UTCS Guide to Text Processing on GP UNIX
The SOS Workbook

New UTCS Documents online

UTCS Catalogue: Statistics Products
IBM: MANUAL=STATCAT
Product-Function List
IBM: MANUAL=STATLIST
Recommended forms code is BXQD.
UTCS Guide to BMDP
IBM: MANUAL=BMDP
UTCS Guide to SAS
IBM: MANUAL=SAS
UTCS Guide to SPSS
IBM: MANUAL=SPSS

Previously announced:

UTCS GUIDE TO PRODUCTS AND SERVICES: Basics
IBM: MANUAL=BASICS
DEC: DOC:BASICS.DOC
GP UNIX: /usr/doc/utcs/basics
UTCS Catalogue: IBM MVS Utilities
IBM: MANUAL=MVSUTIL
Product-Function List
IBM: MANUAL:UTILLIST
Recommended forms code is BXQD.
UTCS Catalogue: Numerical Products
IBM: MANUAL=NUMCAT
GP UNIX: /usr/doc/utcs/numcat
Product-Function List
IBM: MANUAL=NUMLIST
GP UNIX: /usr/doc/utcs/numlist
Recommended forms code is BXQD.
UTCS Catalogue: Text Products
IBM: MANUAL=TEXTCAT
GP UNIX: /usr/doc/utcs/textcat
UTCS Guide to APL
IBM: MANUAL=APLGD
UTCS Guide to APL XFR
IBM: MANUAL=APLXFR
UTCS Guide to Census Tapes
IBM: MANUAL=CENSUS
DEC: DOC:CENSUS.DOC
GP UNIX: /usr/doc/utcs/census
UTCS Guide to File Transfer Service
IBM: MANUAL=FTS
DEC: DOC:FTS.DOC
UTCS Guide to GP UNIX
GP UNIX: /usr/doc/utcs/gpunix
UTCS Guide to GPJS
IBM: MANUAL=GPJSX
DEC: DOC:GPJS.DOC
GP UNIX: /usr/doc/utcs/gpjs
UTCS Guide to Highspeed Printing
IBM: MANUAL=PRINT
DEC: DOC:PRINT.DOC
GP UNIX: /usr/doc/utcs/print
UTCS Guide to IBM MVS Online Storage
IBM: MANUAL=IBMDISK
UTCS Guide to KERMIT
IBM: MANUAL=KERMIT
DEC: DOC:KERMIT.DOC
GP UNIX: /usr/doc/utcs/kermit
UTCS Guide to Mainframe File Transfer Facility
IBM: MANUAL=MFTF
UTCS Guide to SCRIBE
DEC: DOC:SCRIBE.DOC
GP UNIX: /usr/doc/utcs/scribeguide
(For printing instructions, see page 1 of document.)
UTCS Guide to Series/1 Terminal Use
IBM: MANUAL=SERIES
3270 Emulation:
UTCS Guide to
Cybernex APL100 and Volker Craig VC404 (MANUAL=CYBER)
DM1520 (MANUAL=DM1520)
Hardcopy Terminal (MANUAL=HARDCOPY)
IBM 3101 (MANUAL=IBM3101)
SOROC IQ (MANUAL=SOROC)
VT52 (MANUAL=VT52)
VT100 (MANUAL=VT100)
UTCS Guide to SUBUTILS
IBM: MANUAL=SUBUTILS
UTCS Guide to Text Processing on GP UNIX
GP UNIX: /usr/doc/utcs/text
UTCS Guide to TFW.MAK in SCRIBE
DEC: DOC:TFW.DOC
GP UNIX: /usr/doc/utcs/tfwguide
UTCS Guide to TSO (Draft)
IBM: MANUAL=TSOGD
UTCS Guide to UTDSUTIL
IBM: MANUAL=UTDSUTIL
UTCS Guide to WYLBUR
IBM: MANUAL=WYLINTRO
UTCS WYLBUR Tutorial
IBM: MANUAL=WYLTUTOR
The SOS Workbook
DEC: DOC:SOSWRK.DOC

Recent Acquisitions in the Computer Library

ACM Symposium on Principles of Distributed Computing, 2d,
Montreal, Aug. 1983.
Proceedings.
New York, ACM, 1983.

Arbib, M.A.; Kfoury, A.J.; Moll, R.N.
A basis for theoretical computer science.
New York, Springer-Verlag, 1981.

Computer security journal.

Dondis, D.A.
A primer of visual literacy.
Cambridge, Mass., MIT Press, 1973.

Future generations computer systems.
(journal)

Gotlieb, C.C., ed.
The information economy: its implications for Canada's industrial strategy.
Ottawa, Royal Society of Canada, 1984.

Krueger, Myron W.
Artificial reality.
Reading, Mass, Addison-Wesley, 1983.

Miller, Webb.
The engineering of numerical software.
Englewood Cliffs, N.J., Prentice-Hall, 1984.

Stephanie Johnston

Technical Reports Recently Received in the Computer Library

University of British Columbia

Kanda, A.	Recursion theorems and effective domains. 19 p. #84-22.
Tam, C.M.	The design of a distributed interpreter for concurrent Prolog. 62 p. #84-18.
Voda, P.J.; Yu, B.	RF-Maple: a logic programming language with functions, types and concurrency. 9p. #84-8.

Carnegie-Mellon University

Hornig, D.A.	Automatic partitioning and scheduling on a network of personal computers. 180 p. #84-165.
Schwarz, P.M.	Transactions on typed objects. 159 p. #84-166.
Thorpe, C.E.	FIDO: vision and navigation for a robot rover. 120 p. #84-168.

Cornell University

Bajaj, C.	Geometric optimization and computational complexity. 87 p. #84-629.

continued...

Computer continued

Birman, K.P., et al.	An overview of the ISIS project. 14 p. #84-642.
Dietz, P.F.	Intersection graph algorithms. 135 p. #84-628.

University of Illinois

Brewer, F.D.	HCL - a system for hierarchical layout. 64 p. #84-1194.
Donnelly, J.M.	Porting the Newcastle connection to 4.2 Berkeley UNIX. 42 p. #84-1199.
Free, G.G.	File migration in a UNIX environment. 93 p. #84-1196.

University of Newcastle upon Tyne

Randell, B., ed.	Security and privacy. 170 p. Sept. 1984.

Stanford University. Center for the Study of Lanuage and Information

Barwise, J.; Perry, J.	Shifting situations and shaken attitudes. 67 p. #84-13.
Kanerva, P.	Self-propagating search: a unified theory of memory. 174 p. #84-7.
Winograd, T.	Moving the semantic fulcrum. 14 p. #84-17.

Stephanie Johnston

3rd semi-regular summer garage sale!

* GREAT VALUES!

- 42 CRT'S!!
- 13 DIABLO's (letter quality terminals)
- 20, 300 BAUD MODEMS!!!
- CARD READERS!!!!!LINEPRINTERS!!!!!
- Assorted electronic components!!
- Assorted DEC QBUS/UNIBUS boards
- **COMPLETE DEC PDP 11/23 SYSTEM**
  - 2 RL01's (5Meg) removable hard disks
  - 2 RX01's (type) floppy disk drives

MAY 24 - JULY 1

(Preview May 24, 10am - 4pm)
Sandford Fleming Building, Room SF4306

* Prices are subject to negotiation. Priority will be given to purchases made through U of T appropriation accounts.

FOR DETAILS, CONTACT JOE LIM, 978-4693!!!

Consulting and Enquiries

Advising Supervisor	Terry Jones	MP345	4757
External Marketing Consultant	Ihor Prociuk	MP350	6875
Erindale College	Joe Lim	2035	828-5311
Scarborough College	William Barek	S626	284-3173

General Enquiries	Dale Wright	EA206	4990
Account & Access Code Enquiries (U of T)	Agatha Stevens	MP337	8703
Account & Access Code Enquiries (External)	Sylvia May	MP337	7148
Tape Library (Academic Services)	Stella Martin	MP368	7319
Tape Library (Administrative Services)	Miranda Fong	MP368	6693
Terminal Rentals	Theresa Kusy	SF4306	3787
U of T Computer Library	Stephanie Johnston	EA206	2987

Central Advising Office (Appointments)	HELP	300 Baud Interactive Services	6200
Central Advising Office (Phone-in)	HELP	1200 Baud Interactive Services	3959
Microcomputer Support Group(MSG)	8701	DATAPAC	4320, 0056
Numerical/Statistical Advising(SNAC)	STAT	Telenet	0302043200056
System Status Enquiries (DEC)	4318	Tymnet	<backspace> DPAC;302043200056
System Status Enquiries (IBM)	7393		

UTCS Directory

Director	Dr. Warren Jackson	MP350	8948
Associate Director	Eugene Siciunas	MP350	5058
Budget Analysis Supervisor	Marg Doherty	MP350	8697

Managers

Communications & Technical Support	Norman Housley	SF4306	4967
Internal Systems & Administration	Ron Vander Kraats	MP350	4428
Operations	Dr. Bob Chambers	MP350	7092
Systems	Bill Lauriston	MP331	3579
User Interface	Don Gibson	MP350	7331

Committees on Computing

UTCS Board	Chairman	Prof. D.M. Nowlan	4984
Committee on Academic Computing	Chairman	Prof. J.Z. Buchwald	7391
Committee on Computer Networks & Telecommunications	Chairman	Mr. A. Heyworth	4936
Committee on Computing Facilities & Services	Chairman	Prof. J.D. Bossons	8626
Natural Language Processing Steering Committee	Chairman	Prof. I. Lancashire	828-5273
UTCS Users' Committee	Chairman	Prof. J.T. Stevenson	6930
	Secretary	Ms. C. Pereira	4463

UTCS Terminal and Advising Sites

Names and Locations

- **Central Advising Office (CAO), 978-HELP**
- **Education Facility (Educ),** McLennan Labs, 60 St. George St., Room 221
- **Engineering Annex (EAT, CDF),** 11 King's College Road, Rooms 103, 104, 107, 107B, 201, 203.
- **Erindale College (Erin), 828-5339,** Mississauga Road, Erindale Campus, Rooms 2005, 2039, 2045
- **Robarts,** Robarts Library, 130 St. George St., Room 1061A
- **Scarborough College (Scar), 284-3122,** Military Trail, Scarborough Campus, Rooms S624, S625, S627, S628, S628A
- **Sidney Smith (AST & ASUT),** 100 St. George St., Rooms 1071, 1073, 2104, 2105
- **St.Michael's College,** 121 St. Joseph St., Room 101
- **Trinity College,** 6 Hoskins Ave., Room 024
- **Victoria University,** 73 Queens Park Cres., Room 005.

Sites	**Hours of Operation**				**Restrictions***	**Advising**
	Mon-Thurs	Fri	Sat	Sun		
AST	8:00-22:00	8:00-22:00	8:00-22:00	8:00-22:00	None	978-HELP for Research
ASUT	Closed for the summer.					
CAO	10:00-18:00	10:00-18:00	closed	closed	Research	978-HELP
CDF	24 hrs	24 hrs	24 hrs	24 hrs	Undergrads	No
EAT	24 hrs	24 hrs	24 hrs	24 hrs	None	978-HELP for Research
Educ	24 hrs†	24 hrs†	24 hrs†	24 hrs†	Research**	978-HELP
(outer)	24 hrs†	24 hrs†	24 hrs†	24 hrs†	Research	978-HELP
Erin (2039)□	9:00-17:00	9:00-17:00	12:00-16:00	12:00-16:00	Research	Rm 2005
(2045)	24 hrs	24 hrs	24 hrs	24 hrs	Undergrads	Rm 2005
Robarts	8:30-23:00	8:30-18:00	9:00-17:00	closed	None	978-HELP for Reseach
Scar	9:00-24:00	9:00-24:00	10:00-17:00	closed	Research	Rm S626
					Undergrads	Rm S626-A
St.Michael's°	24 hrs	24 hrs	24 hrs	24 hrs	None	Arranged by College
Trinity	8:00-17:00	8:00-17:00	closed	closed	None	Arranged by College
Victoria°	8:30-23:00	8:30-23:00	closed	closed	None	Arranged by College

* Research includes graduates, faculty, staff. ** May be unavailable due to UTCS courses. □ key access available.
† Building open Mon. - Thurs. 7:00 - 22:00, Fri. 7:00 - 17:00. Building closed Sat. & Sun. ° may be closed for summer by College.

Advising Hours

CAO	Monday through Friday, 10:00 - 18:00
Scar	Monday through Friday, 09:00 - 17:00
Erin	Mon. 09:00-17:00, Tues.-Thurs. 09:00-20:00, Fri. 09:00-17:00.

Services Available

(Y=yes, N=no)

	Keypunch	**PACX**	**Printers**	**Network Terminal Server**	**DCS Micros**
AST	N	N	Y	Y	N
ASUT	N	N	Y	N	N
CDF	N	N	Y	N	N
EAT	Y	N	Y	Y	N
Educ	N	Y	N	N	N
Erin	N	Y	Y	Y	N
Robarts	N	Y	Y	N	Y
Scar	N	Y	Y	Y	N
St.Michael's	N	Y	Y	N	Y
Trinity	N	N	Y	N	N
Victoria	N	Y	Y	N	N

UTCS Services

The principal mandate of UTCS is to plan, implement, and operate central computer facilities and "common-carrier" data networks, and to plan and support divisional, departmental or project computer facilities as requested.

UTCS Centrally Owned and Managed Systems

4381-R03 Processor

- TSO, WYLBUR, APL, Batch
- dual processor, 32 megabytes of memory
- MVS operating system

VM/CMS

- provides General Purpose Timesharing, access to NetNorth, BITNET, and EARN networks
- 4381/P02 processor, 16 megabytes of memory
- CP operating system, VM/SP Release 3
  CMS timesharing system, VM/SP Release 3
  RSCSN spooling system, Release 3

DECsystem-10 Model 1090 (discontinued July 19, 1985)

- provides General Purpose Time-Sharing
- 512 K - 36 bit words of memory
- TOPS-10 operating system, Version 7.02
- GALAXY queuing, spooling, and Batch subsystem, Version 4.1

GP UNIX

- provides General Purpose Timesharing using UNIX
- typesetting hardware (CAT/8), and (Varian) for previewing output
- main UTCS node for USENET, the international UNIX network
- offers USENET "news" and electronic mail to most uucp sites

Communications & Technical Support
Primary Phones: 978-3787, 978-4967

- Communications Group provides communications systems, terminals, modems, data channels: consulting and installation.
- Field Service Group installs and maintains communications and computer systems on a contract basis or on a cost-per-call basis.
- provides consulting on computer systems technology and installs computer systems
- provides access between the IBM systems and UNIX, as well as VMS oriented machines using Ethernet and DECNET technologies, and more basic communications techniques.
- provides access to NetNorth (BITNET), the North American Universities Network, and USENET, the UNIX networking fraternity.
- will provide a communications solution to department needs on a contractual basis.

User Interface Group
Primary Phone: 978-HELP

- provides advising, consulting and documentation on:
  - command languages including CMS, TSO, WYLBUR, JCL and UNIX
  - high level languages including FORTRAN, APL and PL/I
  - packages and libraries including SAS, SPSS-X, BMDP, IMSL and NAg
  - editors and formatters including XEDIT, TSO, WYLBUR, ed, SCRIBE, nroff/troff
- installs and maintains application packages
- provides courses on the more popular services
- provides general micro support:
  - selection consulting for hardware and software
  - Micro Lab for evaluation of hardware and software
  - advice on University discounts
  - media conversion and data transfer

Facilities Managed by UTCS

4341-P02 Processor - Administrative Computing

- provides administrative IMS/VS,DB/DC, Batch and TSO
- 16 megabytes of memory
- MVS operating system

PDP-11/70 UNIX SAS (Statistical Analysis Services)

- provides UNIX Statistical Analysis Service (Dept. of Statistics only)
- 4 megabytes of memory
- UNIX Seventh Edition

Computer Disciplines Facility

VAX-11/780 (4 megabytes of memory)
VAX-11/750 (4 megabytes of memory)
VAX-11/750 (3 megabytes of memory)

- provide Computer Science interactive access
- UNIX (Berkeley Unix 4.2BSD)

Scarborough College Systems

VAX-11/750 (5 megabytes of memory)
VAX-11/750 (2 megabytes of memory)

- provides instructional access using UNIX (Berkeley Unix 4.2BSD)

Erindale College Systems

VAX-11/780 (4 megabytes of memory)

- provides instructional access using VMS
- provides research access

VAX-11/750 (5 megabytes of memory)

- provides instructional access using UNIX (Berkeley Unix 4.2BSD)

Private Funding - Alumni Affairs

VAX-11/750 (6 megabytes of memory)

- provides database services to the owner departments using VMS

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